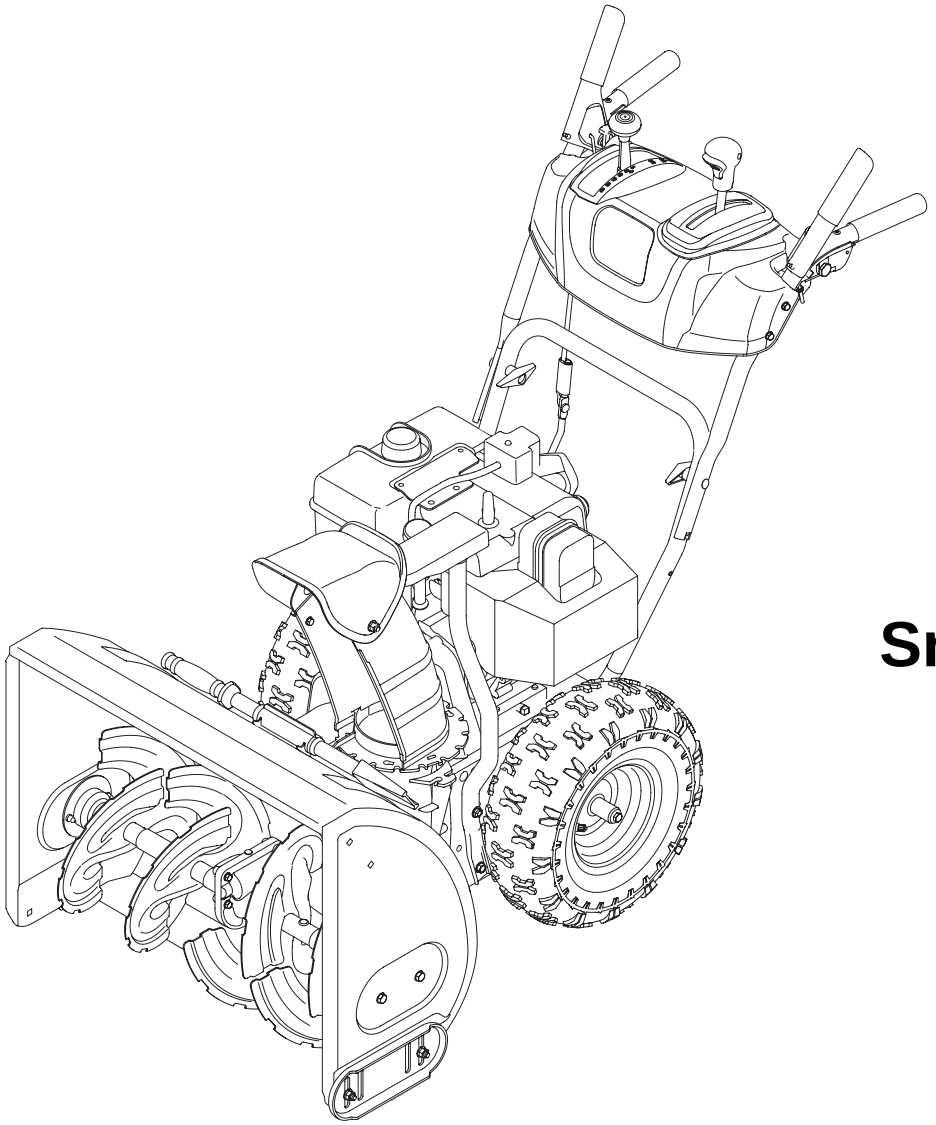
White OUTDOOR®



600 series Snowthrowers

IMPORTANT: Read safety rules and instructions carefully before operating equipment.

60 OTTAWA STREET SOUTH, KITCHENER, ONTARIO N2G 3S7

Printed in U.S.A.

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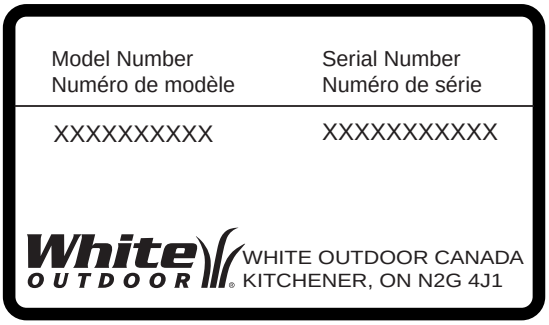
FINDING MODEL NUMBER

This Operator's Manual is an important part of your new snow thrower. It will help you to assemble, prepare and maintain the unit for best performance. Please read and understand what it says.

Before you start assembling your new snow thrower, please locate the model plate on the equipment and copy the information from it in the space provided below. The information on the model plate is very important if you need help from an authorized dealer.

•You can locate the model number by standing behind the unit in the operating position and looking down at the dash panel. A sample model plate is explained below. For future reference, please copy the model number and the serial number of the equipment in the space below.



Copy the model number here: _____

Copy the serial number here: _____

ENGINE INFORMATION

The engine manufacturer is responsible for all engine-related issues with regards to performance, power-rating, specifications, warranty and service. Please refer to the engine manufacturer's Owner's/Operator's Manual packed separately with your unit for more information.

CALLING CUSTOMER SUPPORT

If you have difficulty assembling this product or have any questions regarding the controls, operation or maintenance of this unit, please call an authorized dealer.

Please have your unit's model number and serial number ready when you call. See previous section to locate this information.

SECTION 1: IMPORTANT SAFE OPERATION PRACTICES

WARNING: This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury. When you see this symbol—**heed its warning**.

WARNING: Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to State of California to cause cancer and birth defects or other reproductive harm.

DANGER: This machine was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

Training

1. Read, understand, and follow all instructions on the machine and in the manual(s) before attempting to assemble and operate. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Be familiar with all controls and their proper operation. Know how to stop the machine and disengage them quickly.
3. Never allow children under 14 years old to operate this machine. Children 14 years old and over should read and understand the operation instructions and safety rules in this manual and should be trained and supervised by a parent.
4. Never allow adults to operate this machine without proper instruction.
5. Thrown objects can cause serious personal injury. Plan your snow throwing pattern to avoid discharge of material toward roads, bystanders and the like.
6. Keep bystanders, helpers, pets and children at least 75 feet from the machine while it is in operation. Stop machine if anyone enters the area.
7. Exercise caution to avoid slipping or falling, especially when operating in reverse.

Preparation

1. Thoroughly inspect the area where the equipment is to be used. Remove all door mats, newspapers, sleds, boards, wires and other foreign objects which could be tripped over or thrown by the auger/impeller.
2. Always wear safety glasses or eye shields during operation and while performing an adjustment or repair to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
3. Do not operate without wearing adequate winter outer garments. Do not wear jewelry, long scarves or other loose clothing which could become entangled in moving parts. Wear footwear which will improve footing on slippery surfaces.
4. Use a grounded extension cord and receptacle for all units with electric start engines.
5. Adjust collector housing height to clear gravel or crushed rock surfaces.
6. Disengage the control handle before starting the engine.
7. Never attempt to make any adjustments while engine is running, except where specifically recommended in the operator's manual.
8. Let engine and machine adjust to outdoor temperature before starting to clear snow.
9. To avoid personal injury or property damage use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes which can ignite. Wash your skin and change clothes immediately.
    a. Use only an approved gasoline container.
    b. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
    c. Never fuel machine indoors.
    d. Never remove gas cap or add fuel while the engine is hot or running.
    e. Allow engine to cool at least two minutes before refueling.
    f. Never over fill fuel tank. Fill tank to no more than ½ inch below bottom of filler neck to provide space for fuel expansion.
    g. Replace gasoline cap and tighten securely.
    h. If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting the engine.
    i. Never store the machine or fuel container inside where there is an open flame, spark or pilot light (e.g. furnace, water heater, space heater, clothes dryer etc.).
    j. Allow machine to cool at least 5 minutes before storing.

Operation

1. Do not put hands or feet near rotating parts, in the auger housing or discharge chute. Contact with the rotating parts can amputate hands and feet.
2. The auger control handle is a safety device. Never bypass its operation. Doing so, makes the machine unsafe and may cause personal injury.
3. The control handle must operate easily in both directions and automatically return to the disengaged position when released.
4. Never operate with a missing or damaged discharge chute. Keep all safety devices in place and working.
5. Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
6. Do not operate machine while under the influence of alcohol or drugs.

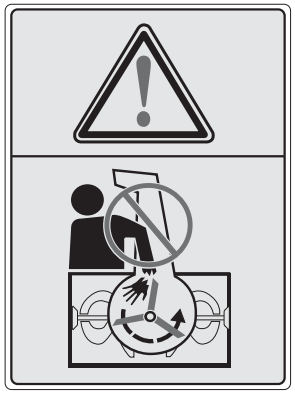
7. Muffler and engine become hot and can cause a burn. Do not touch.
8. Exercise extreme caution when operating on or crossing gravel surfaces. Stay alert for hidden hazards or traffic.
9. Exercise caution when changing direction and while operating on slopes.
10. Plan your snow throwing pattern to avoid discharge towards windows, walls, cars etc. To avoid property damage or personal injury caused by a ricochet.
11. Never direct discharge at children, bystanders and pets or allow anyone in front of the machine.
12. Do not overload machine capacity by attempting to clear snow at too fast of a rate.
13. Never operate this machine without good visibility or light. Always be sure of your footing and keep a firm hold on the handles. Walk, never run.
14. Disengage power to the auger/impeller when transporting or not in use.
15. Never operate machine at high transport speeds on slippery surfaces. Look down and behind and use care when in reverse.
16. If the machine should start to vibrate abnormally, stop the engine, disconnect the spark plug and ground it against the engine. Inspect thoroughly for damage. Repair any damage before starting and operating.
17. Disengage the control handle and stop engine before you leave the operating position (behind the handles). Wait until the auger comes to a complete stop before unclogging the discharge chute, making any adjustments, or inspections.
18. Never put your hand in the discharge or collector openings. Always use a clearing tool to unclog the discharge opening.
19. Use only attachments and accessories approved by the manufacturer.
20. If situations occur which are not covered in this manual, use care and good judgment. Call customer assistance for the name of your nearest servicing dealer.

Maintenance And Storage

1. Never tamper with safety devices. Check their proper operation regularly.
2. Disengage the control handle and stop engine. Wait until the auger/impeller come to a complete stop. Disconnect the spark plug wire and ground against the engine to prevent unintended starting before cleaning, repairing, or inspecting.
3. Check bolts, and screws for proper tightness at frequent intervals to keep the machine in safe working condition. Also, visually inspect machine for any damage.
4. Do not change the engine governor setting or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
5. Snow thrower shave plates and skid shoes are subject to wear and damage. For your safety protection, frequently check all components and replace with original equipment manufacturer's (O.E.M.) parts only. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
6. Check controls periodically to verify they engage and disengage properly and adjust, if necessary. Refer to the adjustment section in this operator's manual for instructions.
7. Maintain or replace safety and instruction labels, as necessary.
8. Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.
9. Prior to storing, run machine a few minutes to clear snow from machine and prevent freeze up of auger/impeller.
10. Never store the machine or fuel container inside where there is an open flame, spark or pilot light such as a water heater, furnace, clothes dryer etc.
11. Always refer to the operator's manual for proper instructions on off-season storage.

Your Responsibility:

- Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.



SECTION 2: SETTING UP YOUR SNOW THROWER

NOTE: *The snow thrower is shipped with oil and WITHOUT GASOLINE. After assembly, refer to separate engine manual for proper fuel and engine oil recommendations.*

Unpacking

- Cut along corners of the carton and lay it down flat. Remove packing material.
- Remove any loose parts included with unit (i.e., operator's manual, etc.).
- Roll unit out of carton. Check carton thoroughly for any remaining loose part.

Loose Parts

Your snow thrower has been assembled at the factory except the parts shipped loose in the carton. These are listed below.

a. Electric Start Cord (optional)
b. Shear Pins and Cotter Pins

Before Assembly

Disconnect spark plug wire and ground it against the engine to prevent unintended starting.

NOTE: *All references in this manual to the left or right side of the snow thrower is from the operating position only. Exceptions, if any, will be specified.*

NOTE: *This Operator's Manual covers several models, handle panels, lights and chute cranks are some features that may vary by model. Not all features referenced in this manual are applicable to all snowthrower models.*

Setting up the Snow Thrower

Handle

1. Observe the lower rear area of the snow thrower to be sure both cables are aligned with roller guides before pivoting the handle upward until it clicks into the place. See Figure 1.
2. Slide the shift rod connector down over the end of the lower shift rod. Tap the connector until it **locks** over the lower shift rod. See Figure 2.
3. Tighten two handle knobs firmly to secure the upper handle to the lower handles. See Figure 1.

NOTE: *If the connector is not properly assembled, the shift rod will pivot and changing speed or direction of the snow thrower will not be possible.*

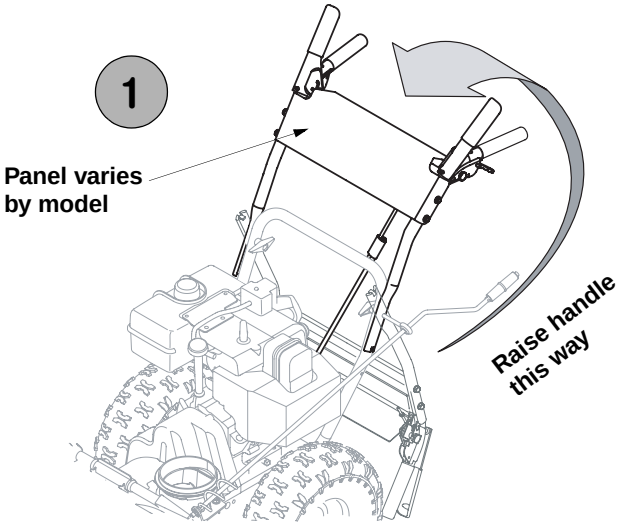


Figure 1

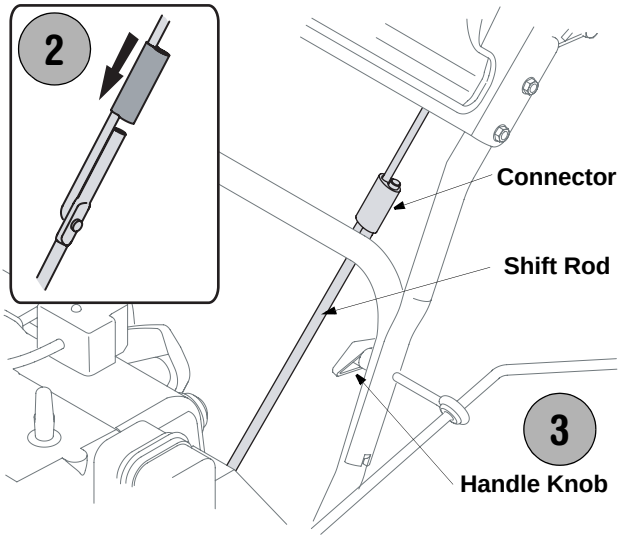


Figure 2

Chute Assembly (all models)

1. Apply a light lubricant (i.e. 3-in-1 oil) to the base of the chute assembly.
2. Place the chute assembly on the lip of the chute adapter. See Figure 3
3. One end of each chute keeper is already attached to the chute flange. Pivot the free end of the chute keeper to align it with the chute flange and push it till it snaps into position. See Figure 4. Repeat with remaining chute keepers.

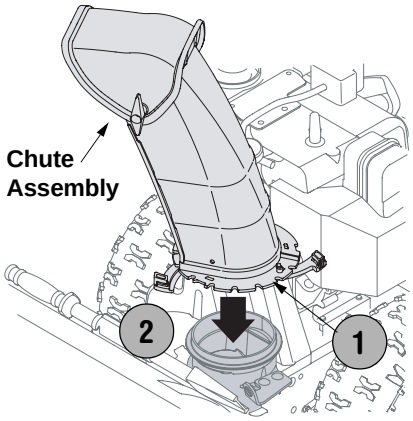


Figure 3

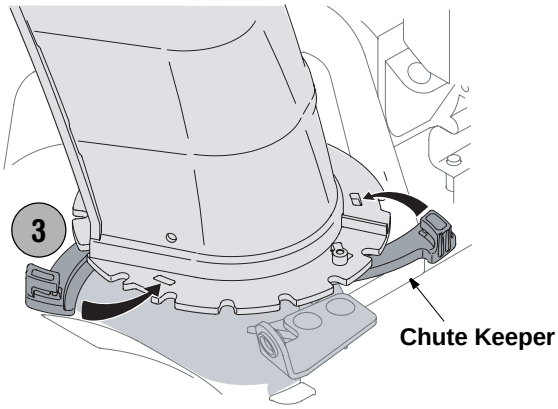


Figure 4

For Models with 4 Way Chute Control Box

1. Pull the hairpin clip out of the clevis pin on the chute support tube. Save this hardware.

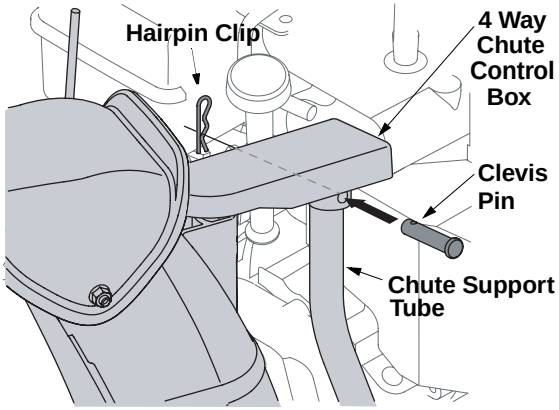


Figure 5

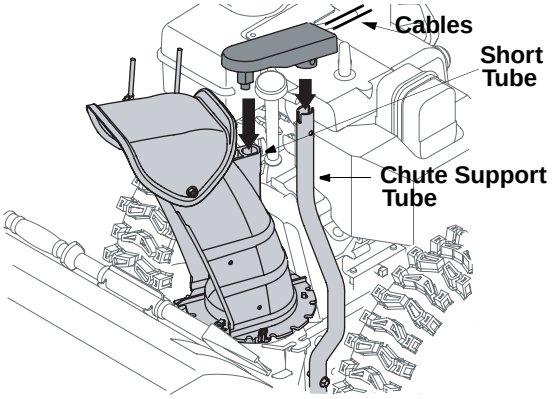


Figure 6

2. Position the chute assembly so the chute opening is facing the front of the unit.
3. Place the chute control box on the short tube of the chute assembly and the chute support tube of the chute assembly as shown in Figure 6, cables should be towards the operator.
4. Insert the clevis pin, earlier removed, through the holes on the chute control box and chute support tube. Secure with the hairpin clip. See Figure 5.

For Models with 2Way Chute Control

1. Slip the cables, running from the chute to the handle panel into the cable guide located on top of the engine. See Figure 7 .

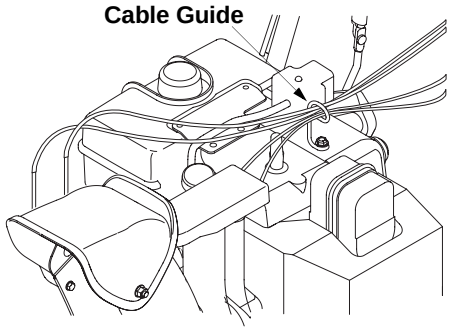


Figure 7

Models with a Chute Directional Control

1. Remove the flat washer and hairpin clip from the end of the chute directional control. Insert the end of the chute directional control into the lower bracket and secure with the flat washer and hairpin clip just removed. See Figure 8.

NOTE: *If necessary, the lower bracket can be adjusted. Refer to* **Chute Bracket Adjustment***. in the Adjustment Section.*

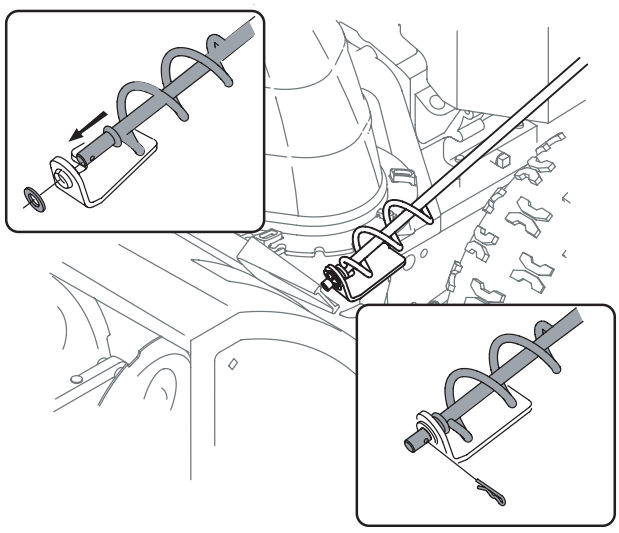
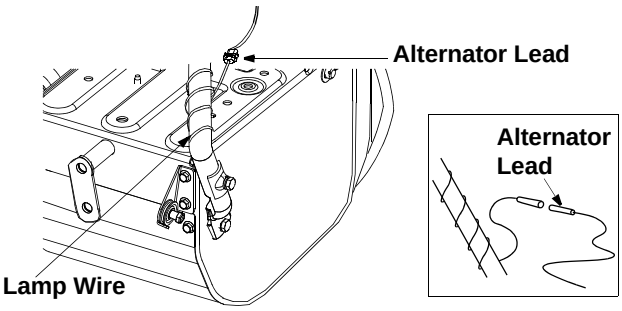


Figure 8

Lamp Wire (optional)

1. Make sure the lamp wire is wrapped down the right handle as shown in Figure 9 .
2. Make sure the lamp wire is plugged into the alternator lead wire under the fuel tank. See Figure 9 inset.



NOTE: Wheels are omitted from illustration for clarity.

Figure 9

Chute Clean-out Tool

1. The chute clean-out tool is fastened with a cable tie to the rear of the auger housing for shipping purposes. Cut the cable tie and remove the extension cord (if equipped) before operating the snow thrower.

Final Adjustments

After setting up your snow thrower, check the adjustments as instructed below and make any final adjustments necessary **before** operating the unit.

CAUTION: Failure to comply with these adjustment instructions may cause damage to the unit.

CAUTION: Prior to operating your snow thrower, refer to **Auger Control Test** on page 12. Read and follow all instructions carefully and perform all adjustments to verify your snow thrower is operating safely and properly.

Tire Pressure

- Before operating, check tire pressure and reduce pressure in both tires to between 15 psi and 20 psi.

NOTE: *If the tire pressure is not equal in both tires, the unit may not travel in a straight path and the shave plate may wear unevenly.*

Skid Shoe

Locate the shave plate and the skid shoes in Figure 10. The space between this shave plate and the ground can be adjusted, refer to the Adjustment section of this manual.

IMPORTANT: It is not recommended that you operate this snow thrower on gravel as loose gravel can be easily picked up and thrown by the auger causing personal injury or damage to the snow thrower.

If for some reason, you have to operate the snow thrower on gravel, keep the skid shoe in the highest position for maximum clearance between the ground and the shave plate.

SECTION 3: KNOWING YOUR SNOW THROWER

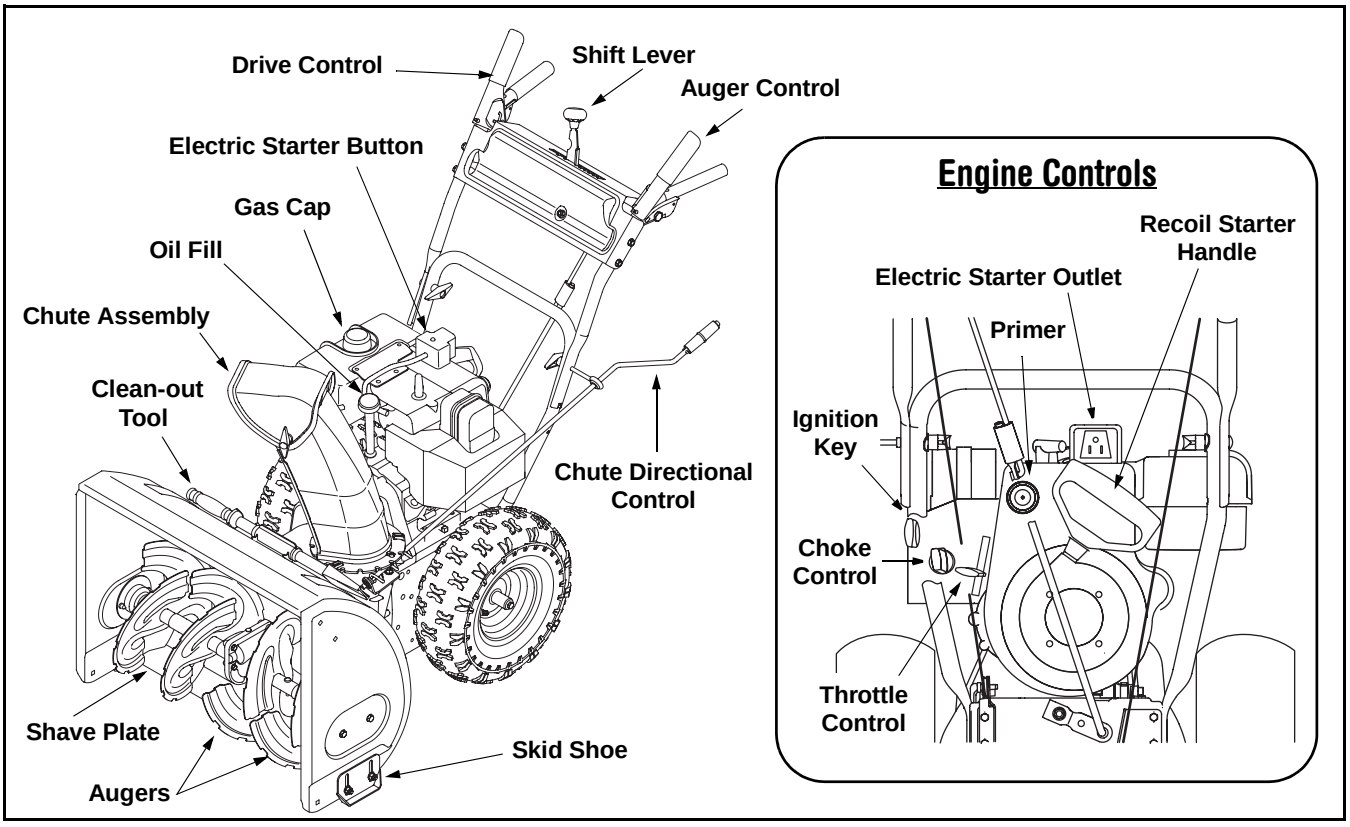


Figure 10

WARNING: Read, understand, and follow all instructions and warnings on the machine and in this manual before operating.

NOTE: For detailed starting instructions and more information on all engine controls, refer to the *separate engine* manual packed with your unit

Shift Lever

The shift lever is located in the center of the handle panel and is used to determine gorund speed and direction of travel.

Forward

There are six forward (F) speeds. Position one (1) is the slowest and position five (6) is the fastest.

Reverse

There are two reverse (R) speeds. One (1) is the slower and two (2) is the faster.

Choke Control

The choke control is found on the rear of the engine and is activated by rotating the knob clockwise. Activating the choke control closes the choke plate on the carburetor and aids in starting the engine.

Throttle Control

The throttle control is located on the engine. It regulates the speed of the engine and will shut off the engine when pushed down completely.

Primer

Depressing the primer forces fuel directly into the engine's carburetor to aid in cold-weather starting.

Oil Fill

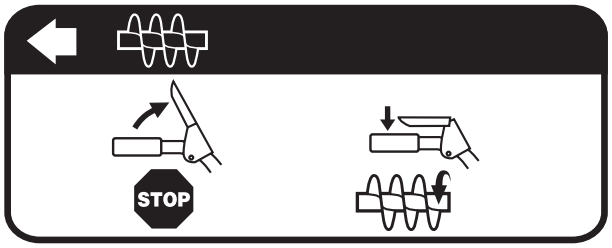
Engine oil level can be checked and oil added through the oil fill.

Ignition Key

The ignition key is a safety devise. It must be **fully** inserted in order for the engine will start. Remove the ignition key when the snow thrower is not in use.

IMPORTANT: *Do not attempt to turn the key.*

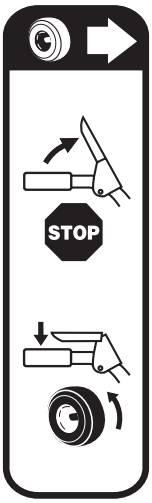
Auger Control



The auger control is located on the **left** handle. Squeeze the auger control against the handle to engage the augers and start snow throwing action. Release to stop.

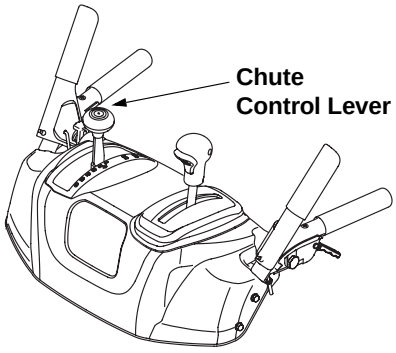
Drive Control

The drive control is located on the **right** handle. Squeeze the drive control against the handle to engage the wheel drive. Release to stop.



4 Way Chute Control (optional)

This four-way control lever is meant to control the direction and distance of snow discharge from the chute. Press the button on the knob and pivot it left or right to rotate the chute to the *direction* that snow will be thrown. Tilt the lever forward or rearward to adjust the *distance* snow will be thrown.



2 Way Chute Control (optional)

This two-way control lever is meant to control the distance of snow discharge from the chute. Tilt the lever forward or rearward to adjust the *distance* snow will be thrown.

Chute Directional Control (optional)

The chute directional control is located on left side of the snow thrower.

To change the direction in which snow is thrown, turn chute directional control as follows:

- Crank clockwise to discharge to the left.
- Crank counterclockwise to discharge to the right.

Clean-Out Tool

WARNING: Never use your hands to clear a clogged chute assembly. Shut off engine and remain behind handles until all moving

The tool is designed to clear a clogged chute assembly. Refer to **Operating Your Snow Thrower** section for more detailed information regarding the chute clean-out tool.

Skid Shoes

The space between the shave plate and the ground can be adjusted by moving the skid shoes.

For close snow removal and hard packed snow, place skid shoes in the lowest position. Use middle or high position when area to be cleared is uneven or gravel surface.

Make certain the entire bottom surface of the skid shoe is against the ground to avoid uneven wear on the slide shoes.

Recoil Starter Handle

The recoil starter handle is used to manually start the engine.

Electric Starter Button (If so equipped)

Pressing the electric starter button engages the engine's electric starter when plugged into a 120V power source.

Electric Starter Outlet (If so equipped)

Requires use of a three-prong outdoor extension cord (packed with the snow thrower) and a 120V power source/wall outlet.

Augers

When engaged, the augers rotate and draw snow into the housing.

Chute Assembly

Snow drawn into the auger housing is discharged out the chute assembly.

SECTION 4: OPERATING YOUR SNOW THROWER

Before Starting

WARNING: Read, understand, and follow all instructions and warnings on the machine and in this manual before operating.

Gas & Oil Fill-Up

Service the engine with gasoline and oil as instructed in the separate engine manual packed with your snow thrower. **Read instructions carefully.**

WARNING: Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Never fuel the machine indoors or while the engine is hot or running. Extinguish cigarettes, cigars, pipes and other sources of ignition.

Starting The Engine

- Attach spark plug wire to spark plug. Make certain the metal loop on the end of the spark plug wire (inside the boot) is fastened securely over the metal tip on the spark plug.
- Make certain both the auger control and drive control are in the disengaged (released) position.
- Move throttle control up to FAST position. Insert ignition key into slot. Make sure it snaps into place. **Do not attempt to turn the key**.

NOTE: *The engine cannot start unless the key is inserted into ignition switch.*

Electric Starter (on models so quipped)

- Determine that your home's wiring is a three-wire grounded system. Ask a licensed electrician if you are not certain.

CAUTION: If your home's wiring system is not a three-wire grounded system, do not use this electric starter under any conditions.

WARNING: The optional electric starter is equipped with a grounded three-wire power cord and plug, and is designed to operate on 120 volt AC household current. It must be used with a properly grounded three-prong receptacle at all times to avoid the possibility of electric shock. Follow all instructions carefully prior to operating the electric starter.

WARNING: If your home electrical system is grounded, but a three-hole receptacle is not available, do not use your snow thrower's electric starter.

If you have a grounded three-prong receptacle, proceed as follows:

- Plug the extension cord into the outlet located on the engine's surface. Plug the other end of extension cord into a three-prong 120-volt, grounded, AC outlet in a well-ventilated area.
- Rotate choke control to FULL choke position (cold engine start).

NOTE: *If the engine is already warm, place choke control in the OFF position instead of FULL.*

- Push the primer two or three times for cold engine start, making sure to cover vent hole in the center of the primer when pushing.

NOTE: *DO NOT use primer to restart a warm engine after a short shutdown.*

- Push starter button to start engine.
- Once the engine starts, immediately release starter button.
- As the engine warms, slowly rotate the choke control to the OFF position. If the engine falters, quickly rotate the choke control back to FULL and then slowly into the OFF position again.
- When disconnecting the extension cord, always unplug the end at the three-prong wall outlet before unplugging the opposite end from the snow thrower.

Recoil Starter

- Rotate choke control to FULL choke position (cold engine start).

NOTE: *If the engine is already warm, place choke control in the OFF position instead of FULL.*

- Push the primer two or three times for cold engine start, making sure to cover vent hole in the center of the primer when pushing.

NOTE: *DO NOT use primer to restart a warm engine after a short shutdown.*

NOTE: *Additional priming may be necessary if the temperature is below 15° F(9° C).*

- Grasp the recoil starter handle and slowly pull the rope out. At the point where it becomes slightly harder to pull the rope, slowly allow the rope to recoil.
- Pull the starter handle with a firm, rapid stroke.

IMPORTANT: Do not release the handle and allow it to snap back. Keep a firm hold on the starter handle and allow it to slowly recoil.

- As the engine warms, slowly rotate the choke control to the OFF position. If the engine falters, quickly rotate the choke control back to the FULL position and then slowly into the OFF position again.

Stopping The Engine

- Run engine for a few minutes before stopping to help dry off any moisture on the engine.
- To help prevent possible starter freeze-up, proceed as follows:

Electric Starter (on models so equipped)

1. Connect extension cord to the electric starter outlet on the engine, then to 120 volt AC outlet.
2. With the engine running, push the starter button and allow the starter for spin for several seconds. The noise made by the starter is normal. The engine's starter is not being harmed.
3. When disconnecting the extension cord, always unplug the end at the three-prong wall outlet before unplugging the opposite end from the snow thrower.
4. Move throttle control to STOP position.
5. Remove the ignition key.
6. Wipe all snow and moisture from the carburetor cover in the area of the drive control and auger control. Also, engage and release the controls several times.

NOTE: *Keep the key in a safe place. The engine cannot start without the ignition key.*

Recoil Starter

1. With engine running, pull starter rope with a rapid, continuous full arm stroke three or four times. Pulling the starter rope will produce a loud clattering sound, which is not harmful to engine.
2. Move throttle control to STOP position.
3. Remove the ignition key.

NOTE: *Keep the key in a safe place. The engine cannot start without the ignition key.*

4. Wipe all snow and moisture from the carburetor cover in the area of the drive control and auger control. Also, engage and release the controls several times.

To Engage Drive

- With the throttle control in the Fast (rabbit) position, move shift lever into one of the six forward (F) positions or two reverse (R) positions. Select a speed appropriate for the snow conditions and a pace you're comfortable with.

IMPORTANT: Use the slower speeds until you are comfortable and familiar with the operation of the snow thrower.

- Squeeze the auger control against the handle and the augers will turn. Release it and the augers will stop.
- Squeeze the drive control against the handle the snow thrower will move. Release it and drive motion will stop.

IMPORTANT: NEVER reposition the shift lever (change speeds or direction of travel) without first releasing the drive control and bringing the snow thrower to a complete stop. Doing so will result in premature wear to the snow thrower's drive system.

To Engage Augers

1. To engage augers and start snow throwing, squeeze the left hand auger clutch grip against the left handle. Release to stop augers.

For models with optional interlock mechanism only:

2. While the auger control is engaged, squeeze the drive control to move, release to stop. Do **not** shift speeds while the drive is engaged.

NOTE: *This same lever also locks auger control so you can turn the chute crank without interrupting the snow throwing process.*

3. Release the auger control; the interlock mechanism should keep the auger control engaged until the drive control is released.
4. Release the drive control to stop both the augers and the wheel drive. To stop the auger, both levers must be released.

Auger Control Test

IMPORTANT: Perform the following test before operating your snow thrower for the first time and at the start of each winter season.

Check the adjustment of the auger control as follows:

- When the auger control is released and in the disengaged “up” position, the cable should have very little slack. It should NOT be tight.
- In a well-ventilated area, start the snow thrower engine as instructed earlier in this section under the heading **Starting the Engine**. Make sure the throttle is set in the FAST position.
- While standing in the operator’s position (behind the snow thrower), engage the auger.
- Allow the auger to remain engaged for approximately ten (10) seconds before releasing the auger control. Repeat this several times.
- With the throttle control in the FAST (rabbit) position and the auger control in the disengaged “up” position, walk to the front of the machine.
- Confirm that the auger has completely stopped rotating and shows NO signs of motion.

IMPORTANT: If the auger shows ANY signs of rotating, immediately return to the operator’s position and shut off the engine. Wait for ALL moving parts to stop before re-adjusting the auger control.

- To readjust the control cable, loosen the hex jam nut on the auger control cable “Z” fitting.
- Rotate the coupling end of the cable ***(without turning the cable)*** counterclockwise to provide more slack.
- Retighten the hex jam nut. See Figure 11.
- Repeat Auger Control Test to verify proper adjustment has been achieved.

To Throw Snow

CAUTION: Check the area to be cleared for foreign objects. Remove, if any.

1. Start the engine following starting instructions.
2. Rotate the discharge chute to the desired position, (away from bystanders and/or buildings) by moving the chute control.
3. Select the speed according to snow condition.

CAUTION: Never move the shift lever without first releasing the drive clutch.

4. Engage the auger control and drive control levers as previously stated.

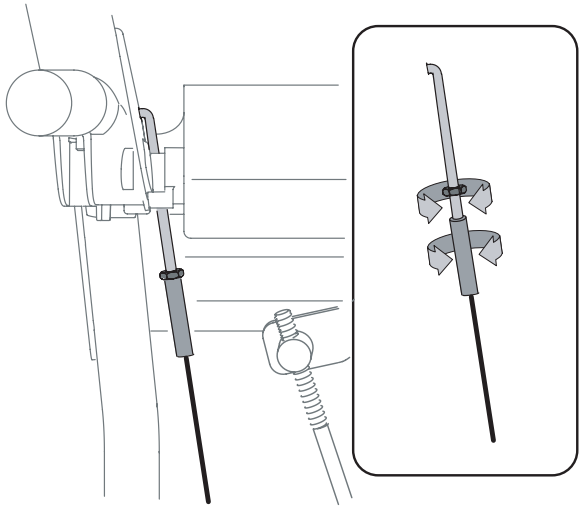


Figure 11

5. The interlock feature will allow you to remove your left hand from the auger control lever.
6. When clearing the first pass through the snow, control speed of snow thrower according to the depth and condition of snow.
7. On each succeeding pass, readjust the chute to the desired positon and slightly overlap previous path.
8. After the area is cleared, stop the snow thrower following instructions given below.

Operating Tips

NOTE: *Allow the engine to warm up for a few minutes as the engine will not develop full power until it reaches operating temperature.*

WARNING: The temperature of muffler and surrounding areas may exceed 150^{o} F. Avoid these areas.

- For most efficient snow removal, remove snow immediately after it falls.
- Discharge snow downwind whenever possible. Slightly overlap each previous swath.
- Set the skid shoes 1/4" below the scraper bar for normal usage. The skid shoes may be adjusted upward for hard-packed snow.

NOTE: *It is not recommended that you operate this snow thrower on gravel as loose gravel can be easily picked up and thrown by the auger causing an injury or damage to the snow thrower.*

- If for some reason, you have to operate the snow thrower on gravel, keep the skid shoe in the highest position for maximum clearance between ground and shave plate.
- Clean the snow thrower thoroughly after each use.

Chute Clean-Out Tool

The chute clean-out tool is conveniently fastened to the rear of the auger housing with a mounting clip. Should snow and ice become lodged in the chute assembly during operation, proceed as follows to safely clean the chute assembly and chute opening:

- Release both the Auger Control and the Drive Control.
- Stop the engine by removing the ignition key.
- Remove the clean-out tool from the clip which secures it to the rear of the auger housing.
- Use the shovel-shaped end of the clean-out tool to dislodge and scoop any snow and ice which has formed in and near the chute assembly.

WARNING: Never use your hands to clean snow and ice from the chute assembly or auger housing

- Refasten the clean-out tool to the mounting clip on the rear of the auger housing, reinsert the ignition key and start the snow thrower's engine.
- While standing in the operator's position (behind the snow thrower), engage the auger control for a few seconds to clear any remaining snow and ice from the chute assembly.

Drift Cutters (on models so equipped)

Drift cutters should be used when operating the snow thrower in heavy drift conditions.

On models so equipped, drift cutters are assembled to the auger housing inverted. Remove the carriage bolts by unthreading the hex nuts which secure them, and reinstall the drift cutters in their proper position before operating the snow thrower. See Figure 12 .

If your unit is not equipped with drift cutters, contact Customer Support as instructed on page 2 for information regarding price and availability.

Snow Thrower Model	Drift Cutter Kit
All models	OEM-390-679

.

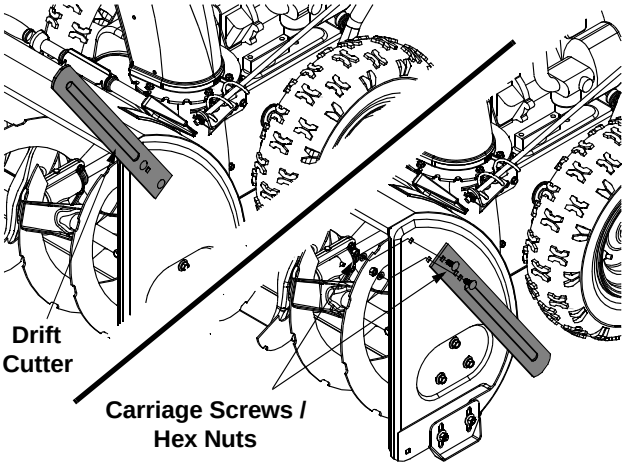


Figure 12

Tire Chains (on models so equipped)

Tire chains should be used whenever extra traction is needed. If your unit is not equipped with tire chains, contact Customer Support for information regarding price and availability.

Operating Tips

NOTE: *Allow the engine to warm up for a few minutes. The engine will not develop full power until it reaches operating temperature.*

WARNING: The temperature of the muffler and the surrounding areas may exceed 150˚F(*65° C)*. Avoid these areas.

- If possible, remove snow immediately after it falls.
- Discharge snow downwind whenever possible.
- Slightly overlap each previous path.
- Set the skid shoes 1/4" below the shave plate for normal usage. Adjust it upward for hard-packed snow and downward when using on gravel or crushed rock.
- Avoid possible starter freeze-up. Clean the snow thrower thoroughly after each use.

SECTION 5: MAKING ADJUSTMENTS

WARNING: Never attempt to make any adjustments while the engine is running, except where specified in operator's manual.

Shift Rod Adjustment

If the full range of speeds (forward and reverse) cannot be achieved, refer to the figures to the right and adjust the shift rod as follows:

1. Place the shift lever in the fastest forward speed position. Remove the hairpin clip which secures the ferrule to the shift lever.

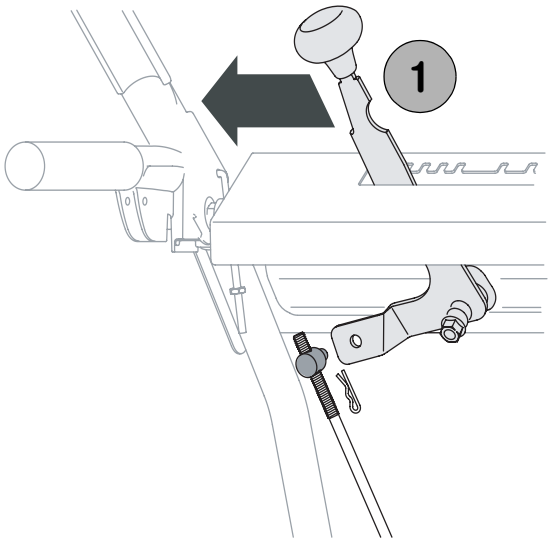


Figure 13

2. Rotate the shift arm clockwise as far as it will go.

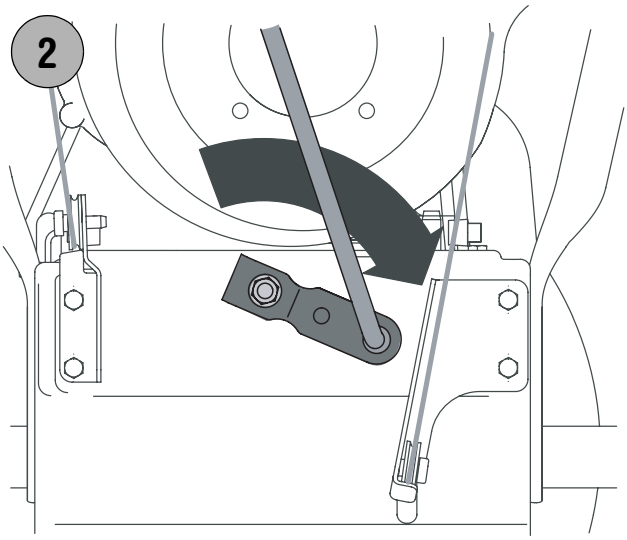


Figure 14

3. Thread the ferrule up or down the shift rod until it aligns with the hole in the shift lever behind the handle panel. Resecure the ferrule with the hairpin clip removed earlier.

Chute Assembly

The distance snow is thrown can be adjusted by changing the angle of the chute assembly. To do so, stop the engine by removing the ignition key and loosen the plastic wing knob found on the left side of the chute assembly. Pivot the chute upward or downward before re-tightening the wing knob. See Figure 16 .

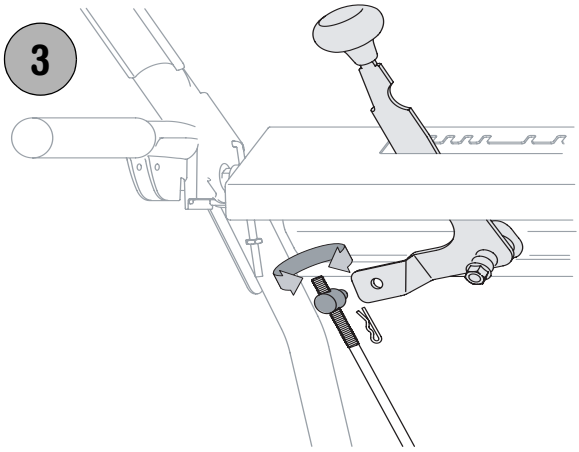


Figure 15

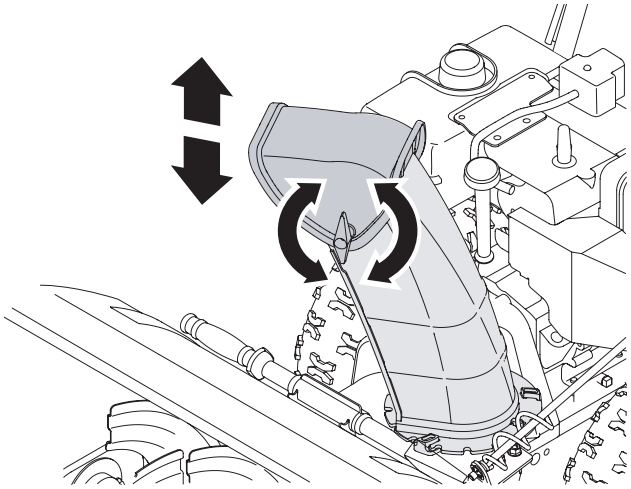


Figure 16

Chute Bracket Adjustment

If the spiral at the bottom of the chute directional control is not fully engaging with the chute assembly, the chute bracket can be adjusted. To do so, loosen the two nuts which secure the chute bracket and reposition it slightly before retightening the nuts. See Figure 17 .

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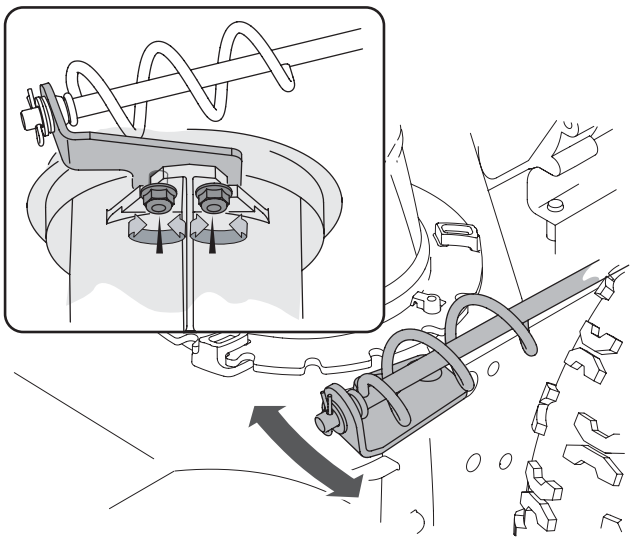


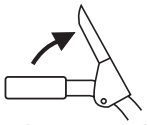
Figure 17

Drive Control

When the drive control is released and in the disengaged “up” position, the cable should have very little slack. It should NOT be tight.

Check the adjustment of the drive control as follows:

1. With the drive control disengaged, push the snow thrower gently forward. The unit should roll freely.
2. Engage the drive control and gently attempt to push the snow thrower forward. The wheels should not turn. The unit should **not** roll freely.
3. With the drive control disengaged, move the shift lever back and forth between the R2 position and the F6 position several times. There should be **no** resistance in the shift lever.



Disengaged

If any of the above tests failed, the drive cable is in need of adjustment. refer to Figure 18 and proceed as follows:

- Loosen the hex jam nut on the auger control cable “Z” fitting and rotate the coupling end ***(without turning the cable)*** of the cable downward to provide more slack or upward to take up slack. See Figure 18 .

Auger Control

Refer to **Auger Control Test** on Page 12 to adjust the auger control.

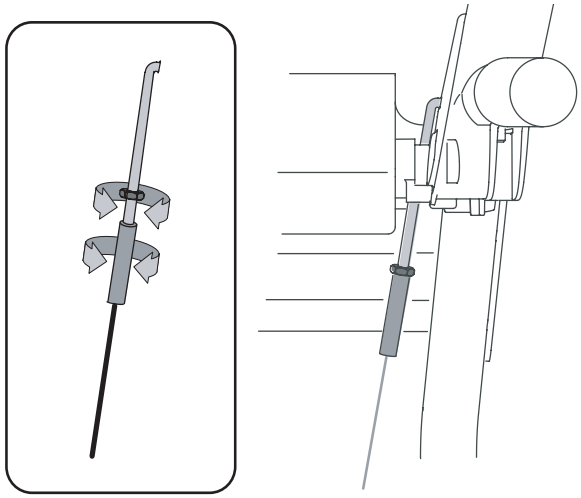


Figure 18

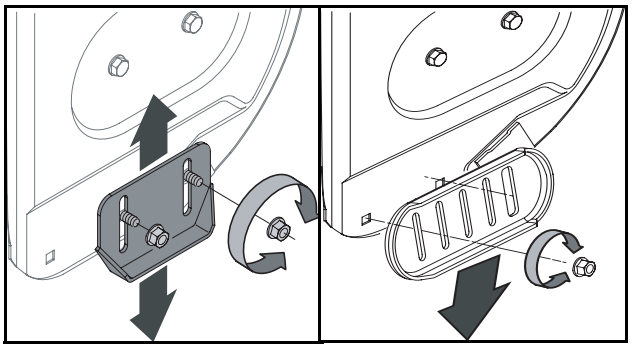
Skid Shoes

NOTE: The space between the skid shoes and the ground can be adjusted. See Figure 19. For close snow removal, place skid shoe in the low position. Use middle or high position when area to be cleared is uneven.

NOTE: *Some models are equipped with reversible skid shoes and may be turned over to increase their lifespan. See Figure 19.*

CAUTION: Loose gravel can be picked up and thrown by the auger, causing injury to the operator and bystanders and/or damage to the snow thrower and surrounding property.

- Adjust skid shoes by loosening the four hex nuts (two on each side) and carriage bolts. Move skid shoes to desired position.
- Make certain the entire bottom surface of skid shoe is against the ground to avoid uneven wear on the skid shoes. Retighten nuts and bolts securely.
- Retighten the hex jam nut and repeat all three tests to verify proper adjustment has been achieved.



Standard Reversible

Figure 19- Skid Shoes

SECTION 6: MAINTAINING AND SERVICING YOUR SNOW THROWER

WARNING: Before lubricating, repairing, or inspecting, disengage all controls and stop engine. Wait until all moving parts have come to a complete stop.

Engine

Refer to the separate engine manual packed with your unit for all engine maintenance.

Lubrication

Engine

Refer to the separate engine manual packed with your unit.

Gear Shaft

The gear (hex) shaft should be lubricated at least once a season or after every 25 hours of operation.

- Remove the lower frame cover by removing the two screws which secure it.
- Apply a light coating of an all-weather multi-purpose grease to the hex shaft. See Figure 20.

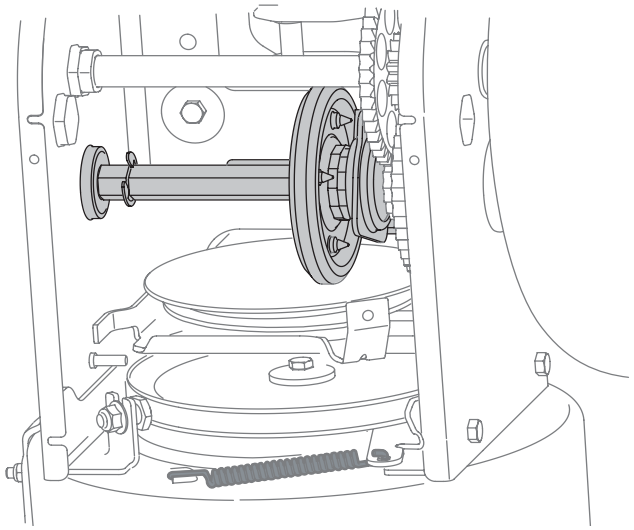


Figure 20

IMPORTANT: Keep lubricant off the friction wheel and drive plate.

Wheels

Oil or spray lubricant into bearings at wheels at least once a season. Remove wheels, clean and coat axles with a multi-purpose automotive grease.

Chute Directional Control

- Once a season, the spiral end on the chute directional control should be greased with multipurpose automotive grease.

Auger Shaft

- At least once a season, remove the shear pins on auger shaft. Spray lubricant inside shaft, around the spacers. Also lubricate the flange bearings found at either end of the shaft. See Figure 21.

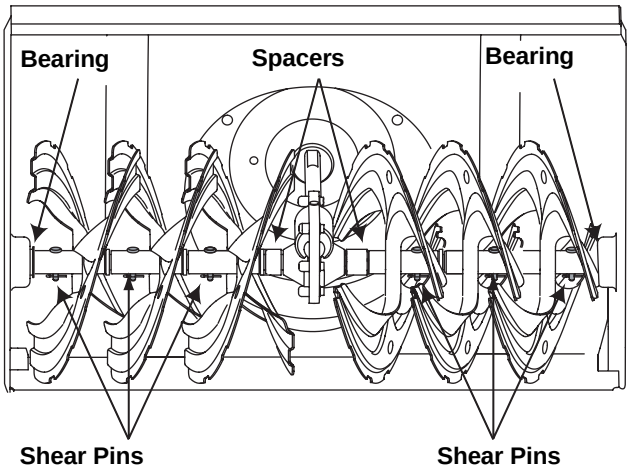


Figure 21- 30" Auger Shown

Augers

The augers are secured to the spiral shaft with shear pins and cotter pins. See Figure 21. If you hit a foreign object or ice jam, the snowthrower is designed so that the shear pins will shear.

If the augers will not turn, check to see if the shear pins have sheared. Replacements have been provided with the snowthrower. When replacing pins, spray an oil lubricant into shaft before ireassembling.

IMPORTANT:NEVER replace the auger shear pins with anything other than OEM Part No.738-04124 replacement shear pins. Any damage to the auger gearbox or other components as a result of failing to do so will NOT be covered by your snow thrower's warranty.

Gear Case

The auger gear case has been filled with grease at the factory. If disassembled for any reason, lubricate with two ounces of grease (Part Number 737-0168).

IMPORTANT: Do not overfill the gear case. Damage to the seals could result. Be sure the vent plug is free of grease in order to relieve pressure.

WARNING: Before servicing, repairing, or inspecting, disengage all controls and stop engine. Wait until all moving parts have come to a complete stop.

Shave Plate and Skid Shoes

- The shave plate and skid shoes on the bottom of the snow thrower are subject to wear. They should be checked periodically and replaced when necessary.

- To remove skid shoes, remove the four carriage bolts and hex flange nuts which secure them to the snow thrower. Reassemble new skid shoes with the four carriage bolts (two on each side) and hex flange nuts. Refer to Figures 19 and 21.
- To remove shave plate, remove the carriage bolts, cupped washers and hex nuts which attach it to the snow thrower housing. Reassemble new shave plate, making sure heads of carriage bolts are to the inside of housing. Tighten securely.

Replacing Belts

Check the condition of both auger belt and drive belt every 25 hours of snow thrower operation. Replace if either shows signs of wear and tear.

Auger Belt

- Remove belt cover by removing the two self-tapping screws that secure it to the snow thrower housing. See Figure 22.
- •Drain the gasoline from the snow thrower, or place a piece of plastic under the gas cap.

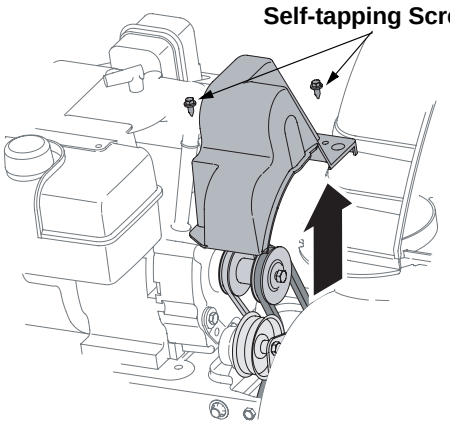


Figure 22

- Take auger belt off the pulley as shown in Figure 23

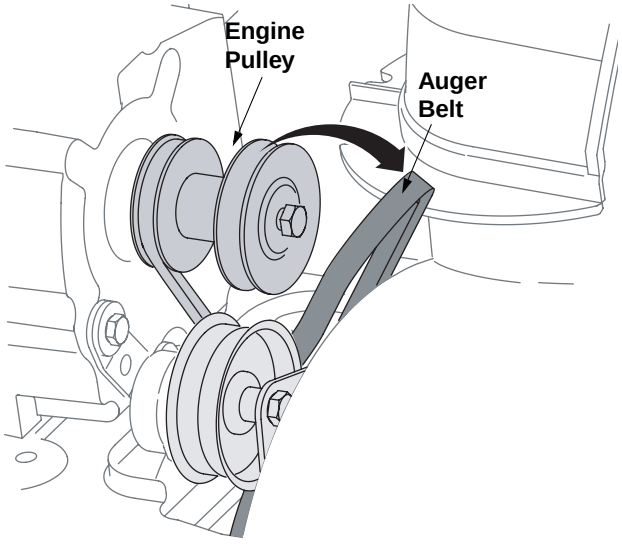


Figure 23

- Tip the snow thrower up and forward, so that it rests on the housing. Remove two self-tapping screws from the frame cover underneath the snow thrower and move the frame cover away. See Figure 24.

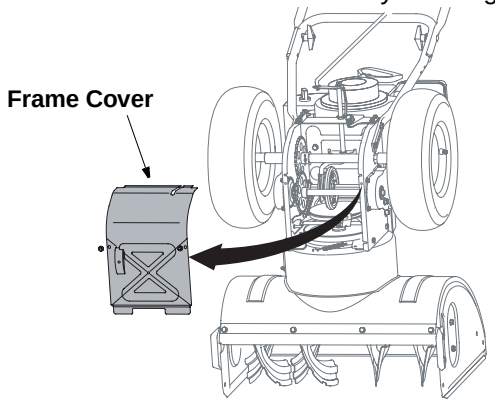


Figure 24

- Half turn shoulder screw and slide it out of the mounting bracket. See Figure 25.
- Unhook spring to release tension on the auger belt. Remove old belt and replace with new belt installing it on the groove. See Figure 25.
- Wrap auger belt around the auger pulley. See Figure 25.
- Re-insert shoulder screw into the mounting bracket and tighten to secure.
- Wrap auger belt behind the idler. Reattach the spring to the bolt where it was earlier secured.
- Re-install frame cover and flip the snow thrower back to the operating position.
- Wrap auger belt around the engine pulley.
- Re-install belt cover with self-tapping screws removed before.

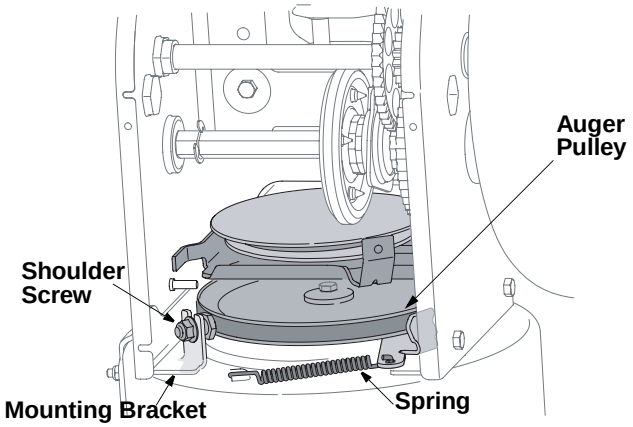


Figure 25

Drive Belt

- Remove belt cover by removing the two self-tapping screws that secure it to the snow thrower frame. See Figure 22.
- Drain the gasoline from the snow thrower, or place a piece of plastic under the gas cap.
- Take auger belt off the pulley as shown in Figure 23

- Push idler away from the chute and insert a Philips head screwdriver in the hole on the idler as shown in Figure 26. This will release tension on drive belt.

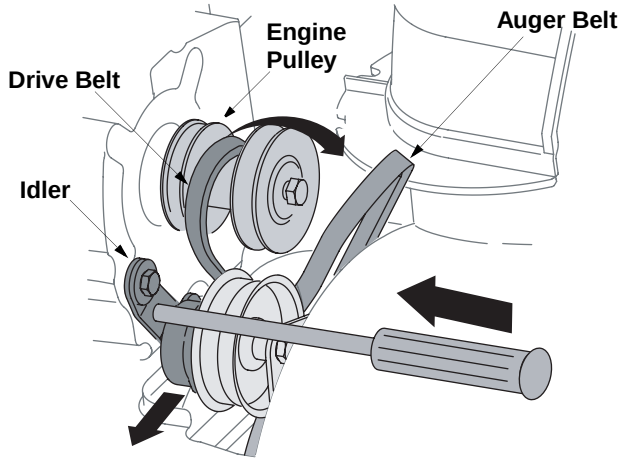


Figure 26

- Pull drive belt out and away from the engine pulley to remove. See Figure 26.
- Tip the snow thrower up and forward, so that it rests on the housing. Remove two self-tapping screws from frame cover underneath the snow thrower and move the frame cover away. Refer to Figure 24.
- Back out the stop bolt to create sufficient gap between the friction wheel disc and the drive pulley. Pull the drive belt from around the drive pulley and clear it off the friction wheel disc. See Figure 27.

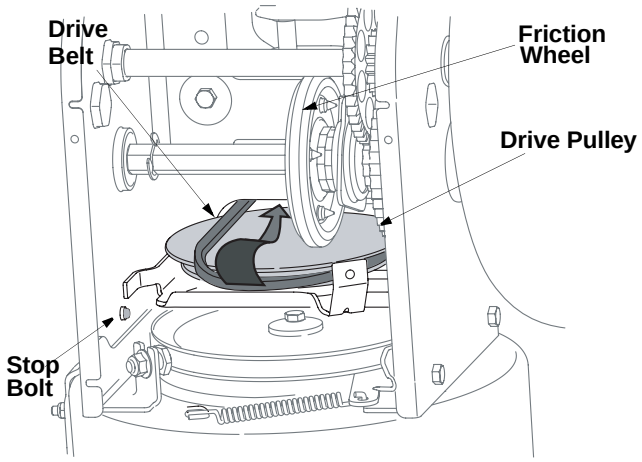


Figure 27

- Now moving to the other side of the snow thrower , slide the belt off the crankshaft.
- Replace with new belt, first sliding it through the crank shaft, then working it around the groove of the drive pulley and finally wrapping it around the engine pulley from where the old belt was removed. Once the belt is firmly placed on the pulleys, make sure to remove the screwdriver from the idler.
- Re-install auger belt on the engine pulley.
- Re-attach frame cover and put the equipment back to operating position. Re-attach belt cover with two self-tapping screws removed earlier.

Friction Wheel Rubber

- Check the rubber on the friction wheel after 25 hours of operation, and periodically thereafter. Replace the rubber if any signs of wear or cracking are found.
- Drain the gasoline from the snow thrower, or place a piece of plastic under the gas cap.
- Move shift lever to the R2 position.
- Tip the snow thrower so that it rests on the housing.
- Remove two self-tapping screws from frame cover underneath the snow thrower and move the frame cover away. See Figure 24.
- Remove the right-hand wheel by removing the screw and bell washer which secure it to the axle.
- Locate the hex shaft and snap ring on the right side of the snow thrower frame, about two inches from the wheel axle.
- Using a suitable tool, carefully remove the outer E-ring which secures the hex shaft to the snow thrower frame and lightly tap the shaft's end to dislodge the ball bearing from the right side of the frame.
- Slide the hex shaft downward and to the left while carefully un-meshing the lower gears on the hex shaft from the upper gears on the wheel axle. See Figure 28.
- Set the hex shaft's gears aside.
- Carefully remove the inner E-ring from the hex shaft and slide the friction wheel assembly off the hex shaft.

NOTE: *If you're replacing the friction wheel assembly as a whole, discard the worn part and slide the new part onto the hex shaft. Follow the steps above in reverse order to reassemble components. If you're disassembling the friction wheel and replacing only the rubber ring, proceed as follows:*

- Remove the four screws from the friction wheel assembly and remove the bonded friction wheel.
- Reassemble new bonded friction wheel rubber to the friction wheel assembly, turn each screw approximately 2 turns in order shown in Figure 29 until screws are tight. It is important for the rubber to be assembled symmetrically.
- Slide the friction wheel assembly back onto the hex shaft and follow the steps above in revers order to reassemble components.

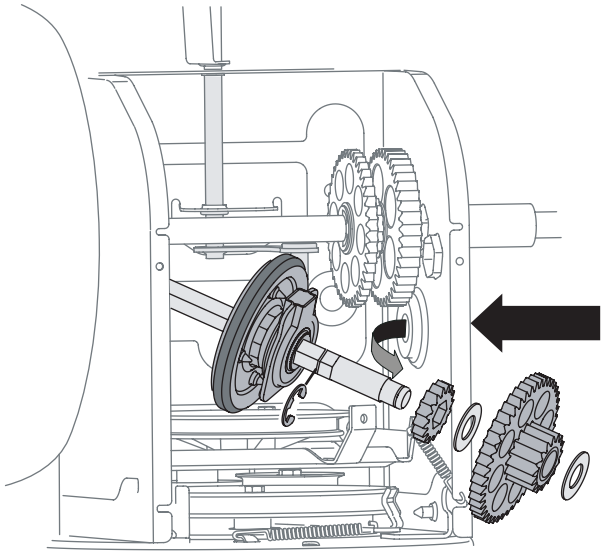


Figure 28

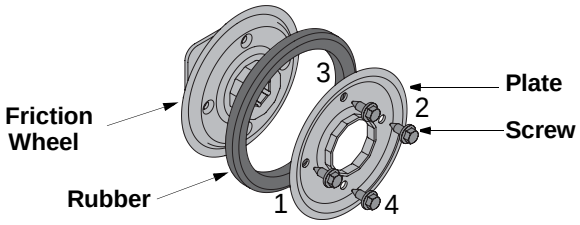


Figure 29

SECTION 7: OFF-SEASON STORAGE

If unit is to be stored over 30 days, prepare for storage as instructed in the separate engine manual packed with your unit.

WARNING: Never store snow thrower with fuel in tank indoors or in poorly ventilated areas, where fuel fumes may reach an open flame, spark or pilot light as on a furnace, water heater, clothes dryer or gas appliance.

- Clean snow thrower thoroughly.
- Lubricate as instructed in the ***Maintaining Your Snow Thrower*** section of this manual.
- Store the snow thrower in a clean, dry area.
- Refer to the engine manual for correct engine storage instructions.

NOTE: *When storing any type of power equipment in a poorly ventilated or metal storage shed, care should be taken to rustproof the equipment, especially springs, cables and all moving parts.*

SECTION 8: TROUBLE SHOOTING

Problem	Cause	Remedy
Engine fails to start.	1. Fuel tank empty, or stale fuel. 2. Blocked fuel line. 3. Choke not in ON position 4. Faulty spark plug. 5. Safety key not in ignition switch on engine. 6. Spark plug wire disconnected. 7. Primer button not being used properly.	1. Fill tank with fresh gasoline. 2. Clean the fuel line. 3. Move switch to ON position 4. Clean, adjust gap or replace. 5. Insert the key fully into the switch. 6. Connect spark plug wire. 7. Contact service center.
Engine runs erratic.	1. Unit running on CHOKE. 2. Blocked fuel line or stale fuel. 3. Water or dirt in fuel system. 4. Carburetor out of adjustment.	1. Move choke lever to OFF position. 2. Clean fuel line and fill tank with clean, fresh gasoline. 3. Drain fuel tank and carburetor. Refill with fresh fuel. 4. Contact service center.
Loss of power.	1. Spark plug wire loose. 2. Gas cap vent hole plugged. 3. Exhaust port plugged.	1. Connect and tighten spark plug wire. 2. Remove ice and snow from gas cap. Be certain vent hole is clear. 3. Contact service center.
Engine overheats.	1. Carburetor not adjusted properly.	1. Contact service center.
Excessive vibration.	1. Loose parts or damaged auger.	1. Stop engine immediately and disconnect spark plug wire. Tighten all bolts and nuts. If vibration continues, have unit serviced by an authorized service center.
Unit fails to propel itself.	1. Drive control cable in need of adjustment. 2. Drive belt loose or damaged.	1. Adjust drivecontrol cable. Refer to Adjustments. 2. Replace drive belt.
Unit fails to discharge snow.	1. Discharge chute clogged. 2. Foreign object lodged in auger. 3. Auger control cable in need of adjustment. 4. Auger belt loose or damaged. 5. Shear bolt(s) sheared.	1. Stop engine immediately and disconnect spark plug wire. Clean discharge chute and inside of auger housing. 2. Stop engine immediately and disconnect spark plug wire. Remove object from auger. 3. Refer to Final Adjustments on page 7. 4. Refer to page 16. 5. Replace with new shear bolt(s).

NOTE: *For repairs beyond the minor adjustments above, contact your local authorized service dealer.*

SECTION 9: THREE (3) YEAR LIMITED WARRANTY

For three (3) years from the date of original purchase of our products, we will either repair or replace, at its option, free of charge, F.O.B. Factory or authorized service firm, any part found to be DEFECTIVE IN MATERIAL and WORKMANSHIP for the original purchaser. all transportation charges on parts submitted for replacement under this warranty must be paid by the purchaser unless return is requested by the manufacturer.

This warranty DOES NOT apply to any part which has become inoperative through misuse, excessive use, accident, neglect, improper maintenance or alterations by unauthorized persons.

The limited warranty does not extend to the replacement of parts which are not defective, but where regular usage has exhausted the life of the part.

ENGINES, ELECTRIC START KITS, PEERLESS TRANSMISSIONS AND PEERLESS TRANSAXLES ARE WARRANTED BY THEIR RESPECTIVE MANUFACTURER. ALL CLAIMS AGAINST THESE COMPONENTS MUST BE HANDLED THROUGH THE RESPECTIVE MANUFACTURER'S SERVICE DEALERS.

Belts, light bulbs, clutch parts (friction wheels), grass bags, tires, seats, rider deck wheels and cutting blades are covered by a 60 day limited warranty.

Batteries are covered by a 90 day limited warranty.

Fuses, shear bolts and blade adapters are considered consumable items and as such are not warranted.

NOTE: Regular maintenance replacement parts and related inspections and adjustments are excluded from coverage when made as part of normal maintenance service.

TRACTOR ATTACHMENT WARRANTY

Mower decks included with your product, or sold separately, as an attachment for your garden tractors will be warranted according to the above terms of the manufacturer three (3) year limited consumer warranty.

ALL OTHER ATTACHMENTS will be sold under the same condition as above except the warranty will be ONE YEAR FROM DATE OF ORIGINAL PURCHASE.

PERSONAL USE

THE FOREGOING PARAGRAPHS CONSTITUTE THE MANUFACTURER'S ENTIRE WARRANTY WITH RESPECT TO ANY PRODUCT PURCHASED AND USED FOR PERSONAL FAMILY, HOUSEHOLD/RESIDENTIAL PURPOSES, AS DISTINGUISHED FROM COMMERCIAL USAGE.

COMMERCIAL USE

ALL APPLICATIONS OTHER THAN PERSONAL USE AS OUTLINED ABOVE, ARE CONSIDERED COMMERCIAL USAGE.

New products purchased for commercial usage are warranted in the same manner and to the same extend EXCEPT the term of warranty will be 60 DAYS from date of purchase, 90 days if your unit is equipped with an OHV engine. "

WARRANTY SERVICE CAN ONLY BE PERFORMED BY AN AUTHORIZED SERVICE DEALER. ANY NON-ORIGINAL EQUIPMENT REPLACEMENT PART USED ON OR IN A PRODUCT UNDER WARRANTY WILL BE EXCLUDED FROM THAT WARRANTY COVERAGE, AS WILL BE ANY RELATED DAMAGED COMPONENTS RESULTING FROM THE INSTALLATION OF A REPLACEMENT PART FROM ANOTHER SOURCE OTHER THAN THE MANUFACTURER.